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Ref: 8EPR-SR

Pollution Report
Vasquez Blvd. & I-70 Operable Unit 01(Removal #4)
City and County of Denver, Colorado

I. HEADING

Date: Sept. 17, 2003
Site Name: Vasquez Blvd & I-70 Operable Unit 01(Removal #4)
From: Victor Ketellapper, RPM
To: Kevin Mould, EPA Headquarters
POLREP No: Initial

II. BACKGROUND

Site No.:	089R
Response Authority:	CERCLA
CERCLIS No:	CO0002259588
Action Memorandum Status:	Approved - March 6, 2003
Start Date:	July 21, 2003
Completion Date:	TBD

III. SITE INFORMATION

A. Incident Category

Non-time-Critical, Fund Lead, Removal Action

B. Site Description

1. Site Location

The site is located in the northwest part of Denver and is bounded by Martin Luther King Boulevard on the south, East 52nd Avenue on the North, Colorado and Vasquez Boulevards on the east and the South Platte River on the west. The site also includes the southwest portion of the Globeville neighborhood.

2. Site Characteristics

OU-1 of the VB/I70 Site is narrowly defined as only those residential yards with levels of lead or arsenic in soil that present an unacceptable risk to human health. While numerous commercial and industrial properties are also located within OU-1, these properties are not considered to be part of the Site. The sources of elevated levels of lead and arsenic in residential soils are likely a combination of historic smelter smokestack emissions, lawn care products, and other industrial sources.

3. Description of Threat

Arsenic and lead have been identified as contaminants of concern in the Baseline Risk Assessment. Arsenic and lead are hazardous substances, as defined by Section 101(14) of CERCLA.

Individual properties where the 95% upper confidence limit for arsenic is equal to or exceeds 240 ppm and/or the average lead concentrations are equal to or exceed 540 ppm pose an unacceptable risk to residents. The arsenic level was based on cancer risks exceeding 1 $X10^{-4}$ for reasonable maximum levels of exposure where the 95% upper confidence limit on the yard wide arithmetic mean arsenic concentration. The lead level was based on predictions provided by the Integrated Exposure/Uptake Biokinetic (IEUBK) model that there would be no more than a 5% chance of exposed childern having a blood lead level that exceed 10 ug/dL.

IV. RESPONSE INFORMATION

A. Situation

1. Action Description

The proposed action will prevent exposure to soils containing arsenic or lead in concentrations predicted to present an unacceptable risk of adverse health effects to children and adult residents under the reasonable maximum exposure scenario.

At properties where the 95 UCL concentration of arsenic equals or exceeds 240 ppm or the yard-wide average concentration of lead exceeds 540 ppm, accessible surface soils will be excavated to a depth of 12 inches. Accessible soils are defined as soils in grass covered and bare yard areas, gravel covered driveways and parking areas, and flower and vegetable gardens, except as described below. Excavation will not be performed in areas that are covered by brick or pavement surfaces such as concrete pads, patios, paths, and driveways; areas where permanent structures are present such as houses, garages, crawl spaces, and wooden decks; or areas covered by large landscaping items such as retaining walls and water features.

Property owners will be required to sign an access agreement that grants access to EPA in order to perform and complete all work. The specific scope of soil removal and restoration at a given property will be agreed upon with the property owner prior to beginning excavation. The agreement will be documented in a individual property "Site Removal Plan" which the property owner and EPA will review and sign before excavation begins at that property. Some owners may be reluctant to agree to allow gardens and flowerbeds to be removed. Therefore, soil samples will be collected from each vegetable garden and flower bed an owner prefers to keep. The soil samples will be analyzed for arsenic and lead. Gardens or flowerbeds with arsenic concentrations less than 70 ppm and lead concentrations equal to or less than 400 ppm will be left in place. Otherwise, the gardens or flowerbeds will be excavated and removed.

Soil removal will also be performed in road apron areas (soil areas between sidewalks and streets) adjacent to properties undergoing soil removal. Access to these areas will be obtained from the City and County of Denver.

Excavated soils will be transported off-site for disposal at an appropriate facility. All off-site disposal will occur in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 121(d)(3) and 40 CFR 300.440. Disposal options include a number of regional solid and hazardous waste disposal facilities. Another potential option is to relocate the soils to the Asarco Globe Plant where they would be managed in a manner consistent with soils excavated as part of the South Globeville Residential Remediation Project and closure plans for the plant site. The disposal facility will be identified by EPA prior to beginning excavation activities and based on results of characterization of the soils as hazardous or solid waste. The required sampling and analysis of soils to determine the appropriate disposal facility will be performed in accordance with an EPA approved Sampling and Analysis Plan. Excavated soil may be consolidated and stored within a secure staging area prior to transportation and disposal.

Excavated areas will be backfilled with clean replacement materials that are of comparable physical quality than the materials that were removed. Excavated yard areas will be restored with subsoil and topsoil or, if the property owner agrees, decorative rock and gravel options to reduce future water use. The options will be the presented to the property owner for a decision prior to excavation at a property. Excavated gardens and flowerbeds will be restored with garden soil. Excavated driveway and parking areas will be restored with compacted road base and gravel. Replacement soils will have properties that promote plant growth (for those areas to be re-planted) and provide suitable drainage.

If a sprinkler system is present, the surrounding soil will be either excavated by hand, if practical, or the system will be removed and disposed with other debris. In these cases, generally the sprinkler heads will be removed and saved along

with major components such as manifolds, valves and controllers. The pipes will be removed and disposed. Prior to backfill, new pipes will be installed and the salvaged components will be replaced.

Fences will generally be removed, salvaged, and replaced upon completion of backfill. Where feasible to leave in place during excavation, handwork around posts will be performed to maintain fence stability and prevent damage. Damaged fences or fences that cannot be re-installed following removal will be replaced with a new fence of similar type to the original.

Following backfill, areas will be restored to match original conditions to the maximum extent practicable. Areas covered with grass will be re-vegetated with seed or sod to achieve vegetated cover similar to the original condition. The property owner will be presented with decorative rock and gravel options to minimize the sodded or seeded area in order to minimize future water use. Replacement plants and vegetation of same or similar species and number will be installed in flowerbeds and gardens. Annual plants will not be replaced. EPA will work with the Denver Water Board to identify candidate xeric plants as options for replacement vegetation. The xeric options will be presented to the property owner for a decision prior to beginning soil removal activities at the property.

All materials such as fences, lawn ornaments, dog runs, and other items that were moved to allow soil removal will be restored to their original location and any incidental damage to buried sprinkler systems and sidewalks will be repaired.

Properties re-vegetated with sod will be maintained for thirty days, and properties re-vegetated with seed will be maintained for sixty days. Maintenance will include all required watering and fertilizer applications but will not include mowing. Watering will adhere to requirements of the Denver Water Board.

Photographs and/or videotapes will be used to document pre- and post-construction conditions of properties, streets, and sidewalks.

After property soil removal and restoration and maintenance has been performed, the property owner will sign an as-built version of the Site Removal Map to document that the work has been satisfactorily completed.

2. Project Schedule

In July 2003, the Contractor started mobilization activities, which included setting up the Command Post, Temporary Stockpile Area for the Excavated Soils, Procurement of Local Materials, Supplies, and Services. Construction activities begun on July 21, 2003. Construction is scheduled to be completed in December, 2003.

B. Estimated Costs

The costs associated with this removal action are estimated as follows:

Extramural Costs	
Corps of Engineers Rapid Response	
Direct Costs	$3,390,000
Indirect Costs	$ 110,000
Total Extramural Costs	$3,500,000
Intramural Costs	
Direct Costs	$ 33,000
Indirect Costs	$ 66,000
Total Intramural Costs	$ 99,000
Total Removal Project Ceiling	$3,599,000

C. Disposition of Waste

All soils will be transported to an acceptable receiving facility. This facility may be an off-site municipal landfill or the ASARCO Globe Plant.